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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,732	03/02/2000	Kunio Imai	041514-5072	4972

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EXAMINER

QUARTERMAN, KEVIN J

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/517,732

Applicant(s)

IMAI, KUNIO

Examiner

Kevin Quarterman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7-15 and 17-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-5,7-15,17-20,38 and 39 is/are allowed.
- 6) ☒ Claim(s) 21-37 is/are rejected.
- 7) ☒ Claim(s) 40 and 41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed 27 August 2003 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 21-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsumura (US 5500537).
4. Regarding independent claim 21, Figure 7 of Tsumura shows an organic thin film switching element comprising an insulative film (13); an organic semiconductor layer (16) made of an organic semiconductor and mounded on the insulative film; a pair of intermediate electrodes (14, 15) disposed within the organic semiconductor layer; and a gate arrangement (12) for applying an electric field to the organic semiconductor layer between the intermediate electrodes.
5. Regarding claims 22-24, the organic semiconductor of Tsumura has a hole and electron transport property.
6. Regarding claims 25-28, Tsumura discloses the intermediate electrodes being made of a material having a work function to facilitate movements of holes and electrons between the electrodes and the organic semiconductor layer (col. 3, ln. 22-33).

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7. The Examiner notes that the claimed functional properties of the organic semiconductor layer are not positive limitations but only requires the ability to perform the function. They do not constitute limitations in any patentable sense.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 29-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's prior art (APA) Figures 1 and 2 in view of Tsumura (US 5500537).

10. Regarding independent claim 29, prior art Figure 1 shows an organic electroluminescent element including a substrate (1) having a first display electrode (201), an organic layer (202) formed on the first display electrode, and a second display electrode (203) formed on the organic material layer.

11. Applicant's admitted prior art Figure 1 teaches the claimed invention except for an organic thin-film switching element formed on the substrate and connected to the first or second electrode.

12. Tsumura, also regarding claims 34-37, teaches an organic thin-film switching element, as described above for claims 21-28. Tsumura also discloses that the organic film greatly improves the modulation of the source-drain current in an LCD (col. 5, ln. 54-56).

13. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the organic electroluminescent element of applicant's prior art Figure 1 with an organic thin-film switching element, as taught by Tsumura, for providing a highly efficient, high luminance, and longer life full color display.

14. Regarding claim 31, applicant admits that a plurality of organic EL elements is arranged in a matrix (pg. 1, ln. 14-16).

15. Regarding claim 32, APA Figure 2 shows a capacitor (C) formed on the substrate and connected to the first or second display electrodes.

16. Regarding claim 33, applicant admits that the substrate and the first display electrode are transparent (pg. 1, ln. 18-20).

Response to Arguments

17. Applicant's arguments with respect to claims 21-37 have been fully considered but they are not persuasive.

18. In response to applicant's argument that Tsumura does not teach a gate arrangement for applying an electric field to the organic semiconductor layer, the Examiner submits that Tsumura's Element "12" of Figure 7 shows is considered to be a "gate arrangement" since it is described by Tsumura as a gate electrode.

Allowable Subject Matter

19. Claims 1, 3-5, 7-15, 17-20, and 38-39 are allowed.

20. The following is a statement of reasons for the indication of allowable subject matter: Applicant's arguments filed 27 August 2003 with respect to the rejection of

claims 1, 3-5, 7-15 and 17-20 have been fully considered and are persuasive. In particular, applicant argues that the applied prior art (Tsumura) does not teach, in addition to other limitations, a pair of opposing gate electrodes sandwiching an insulative film and an organic semiconductor layer as cited in independent claims 1 and 11. Therefore, the rejection has been withdrawn. Due to their dependency upon independent claims 1 and 11, claims 3-5, 7-10, 12-15, 17-20, and newly added claims 38-39 are also allowed.

21. Claims 40-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (703) 308-6546. The examiner can normally be reached on M-F (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Kevin Quarterman
Examiner
Art Unit 2879

kq 
January 7, 2004


Nimesh Patel
Supervisory Patent Examiner
Art Unit 2879